

REMARKS

I. STATUS OF THE CLAIMS

Claims 1-21 and 25-103 are pending. Claims 1-21 and 25-103 are withdrawn pursuant to an earlier restriction requirement. Claim 22 is canceled without prejudice or disclaimer. Applicants reserve the right to file one or more continuing applications to the canceled subject matter. Claims 23 and 24 are under examination. Claim 23 is amended for the reasons set forth in the following subsection.

II. DISPOSITION OF THE APPLICATION

In the Office Action dated 01/05/07, Examiner Xie considered claim 23 to be allowable. Please see box "5" on the Office Action Summary and under the Conclusion at page 5 of that Office Action. "Upon further consideration," however, Examiner Xie believes claims 23 and 24 are "subjected to new grounds of rejections" as set forth in the present non-final Office Action.

Applicants thank Examiner Xie for taking Applicants' representative's call to discuss certain claim amendments to help advance this case to allowance. Applicants' present amendments take those discussions into account in amending claim 23 in a good faith effort to expedite a favourable review.

To elaborate, Applicants have amended claim 23 to make clearer that (a) the claimed antibody is a "phosphospecific" antibody which is directed against a peptide comprising the sequence of SEQ ID NO. 3, which comprises a phosphorylated serine, and "wherein the antibody specifically binds to the SEQ ID NO. 3 sequence." Support for these amendments is found throughout the application but please see paragraphs [0011], [0109], and [0111], for exemplary written description support. Applicants believe that this amendment clarifies the claimed antibody binds specifically to the SEQ ID NO. 3 portion of a peptide which contains a phosphorylated serine residue. (Claim 24 was previously amended to clarify that "serine-810" references the serine is residue number 4 of SEQ ID NO 3).

Since none of these amendments introduces new matter, Applicants respectfully request their entry into the record.

III. THE CITED PRIOR ART DOES NOT TEACH A PHOSPHOSPECIFIC ANTIBODY THAT IS RAISED AGAINST THE PHOSPHORYLATED SEQ ID NO. 3 SEQUENCE AND THEREFORE DOES NOT DESCRIBE PHOSPHO-ANTIBODIES THAT BIND SPECIFICALLY TO PHOSPHORYLATED SEQ ID NO. 3

Claims 23 and 24 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by United States Patent Application publication No. 2005/0100554 (priority to February 14, 2002) ("Jackson"). According to the Examiner, Jackson teaches an antibody directed against a protein, "ARHGEF2," that comprises SEQ ID NO. 3. Office Action at page 3. For that reason, "the antibodies would be expected to specifically bind to ARHGEF2, no matter the protein is in phosphorylated or unphosphorylated state . . . therefore Jackson anticipates the instant claims." *Id.*

Claims 23 and 24 also are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Scacco *et al.*, J. Biol. Chem., Vol. 275(23):17578-17582 (2000) ("Scacco"), for the same reason. That is, Scacco allegedly teaches antibodies that bind to a protein within which is found the SEQ ID NO. 3 sequence. The Examiner argues that since these antibodies can bind to any other sequence within the protein then they necessarily bind to a peptide that comprises SEQ ID NO. 3 whether or not that subportion is phosphorylated.

Applicants assert that neither Jackson nor Scacco teaches a phosphospecific antibody that binds specifically to the phosphorylated SEQ ID NO. 3 portion of a larger peptide. Scacco describes their use of a commercially available monoclonal antibody from Sigma – the "anti-phosphoserine antibody" (column 2, p.17578). But Scacco concerns immunoassays for detecting cAMP-dependent phosphoprotein, specifically of the phosphorylation state of an 18-kDa subunit of complex I. *Id.*

Applicants do not know how it is possible that the Examiner has equated the 18-kDa complex I subunit with the GEF-H1-specific sequence of SEQ ID NO. 3 to thereby conclude that the Sigma antibody would "be expected to specifically bind to ARHGEF2 or a peptide comprising SEQ ID NO: 3." Office Action at page 4. From Applicants' review, Scacco does not disclose the SEQ ID NO. 3 sequence (the only alignment in Scacco is in Figure 1, which concerns the comparison of murine, human, and bovine complex I and an analogue from *N. crassa*. See page 17579). Nothing in Scacco teaches Applicants' SEQ ID NO. 3 sequence, nor points to the phosphorylated serine therein, nor teaches one to raise an antibody that would specifically bind to that phosphorylated peptide sequence. Accordingly, Scacco does not, and cannot, anticipate claims 23 and 24.

As for Jackson, Jackson likewise does not teach an antibody that binds specifically to the phosphorylated sequence of SEQ ID NO. 3.

For these reasons, Applicants assert that claims 23 and 24 are not anticipated by the cited art and respectfully request that Examiner Xie withdraw these rejections in their entirety.

IV. CLAIM 23 IS DEFINITE

Claim 23 is rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite because the phrase "the sequence is described in SEQ ID NO: 3" is allegedly unclear. Applicants thank Examiner Xie for suggesting that Applicants can obviate this rejection by amending the claim to recite "the sequence of SEQ ID NO: 3." They have taken this opportunity to make such an amendment and therefore request withdrawal of this rejection.

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CONCLUSION

Applicants believe that claims 23 and 24 are in condition for allowance. Applicants will consider canceling all of the withdrawn claims upon notification of allowance of claims 23 and 24. Examiner Xie is invited to contact the undersigned by telephone if a discussion would help to clarify any other matters in order to expedite an allowance.

Respectfully submitted,

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The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.